| | |
|---|---|
| ISO8528 | This generator set has been designed to meet ISO 8528 regulation. |
| SZUTEST | This generator set is manufactured in facilities certified to ISO 9001. |
| CE | This generator set is available with CE certification. |
| 2000/14/EC | Enclosed product is tested according to EU noise legislation 2000/14/EC |

## 3 Phase Ratings, 60 Hz, PF 0,8

| | Standby Rating (ESP) | | Prime Rating (PRP) | | |
|---|---|---|---|---|---|
| Voltage | kVA | kw | kVA | kw | Amp |
| 480/277 | | 135,00 | | 123,00 | 184,90 |
| 380/220 | | 129,00 | | 117,00 | 222,20 |
| 208/120 | | 135,00 | | 123,00 | 426,80 |

Standby Rating (ESP): Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. ESP is in accordance with ISO 8528. Overload is not allowed.

Prime Rating (PRP): Applicable for supplying power to varying electrical load for unlimited hours. PRP is in accordance with ISO 8528. 10 % overload capability is available for a period of 1 hour within 12-hour perod of operation,in accordance with ISO 3046.

## STANDARD SPECIFICATIONS

Water cooled, Diesel engine
Radiator with mechanical fan
Protective grille for rotating and hot parts
Electric starter and charge alternator
Starting battery (with lead acid) including rack and cables
Engine coolant heater
Base frame design incorporates an integral fuel tank and anti-vibration isolators
Flexible fuel connection hoses
Single bearing, class H alternator
Industrial exhaust silencer and steel bellows supplied separately(for open sets)
Static battery charger
Manual for application and installation

## OPTIONAL EQUIPMENTS

### ENGINE

- Fuel-Water Seperator Filter
- Low water level alarm
- Oil heater

### ALTERNATOR

- Anti-Condensation Heater
- Over sized alternator
- PMG excitation + AVR
- Main line circuit breaker

### CONTROL SYSTEM

- Automatic synchronising and power control system ( multi gen-set Parallel )
- Paralel system with mains.
- Transition synchronization with mains
- Remote annunciator panel
- Remote relay output
- Alarm output relays
- Remote communication with modem
- Earth fault, single set
- Charge Ammeter

### OTHER ACCESSORIES

- Automatic or manual fuel filling system
- Electrical oil drain pump
- Low and high fuel level alarm
- Residential silencer
- Enclosure: weater protective or sound attenuated
- Duct adapter ( on radiator)
- Inlet and outlet acoustic baffles
- Trailer
- Tool kit for maintenance
- Supplied with oil and coolant - 30 °C
- Battery isolating switch
- Main Fuel Tank
- Automatic transfer switch

### TRANSFER SWITCH

- Three Pole Contactor
- Four Pole Contactor
- Three or four pole motor operated circuit breaker

## DIESEL ENGINE SPECIFICATIONS

| | | | |
|---|---|---|---|
| Manufacturer | | Cummins | تولید کننده |
| Model | | 6BTAA5,9G6 | مدل |
| No. of Cylinders and Build | | 6 Cylinder, In Line | تعداد سیلندرها و نوع آرایش آنها |
| Aspiration and Cooling | | Turbo Charged and Change Air Cooled | سیستم تنفس و خنک کاری |
| Maximum Standby Power | | 1800 rpm<br>160,00 kw [215,00HP] | توان Standby |
| Total Displacement | L | 5,900 | جابه جایی کل |
| Bore and Stroke | mm | 102x120 | قطر سیلندر و کورس پیستون |
| Compression Ratio | | 16.5:1 | نسبت تراکم |
| Rated Speed (rpm) | rpm | 1800 | سرعت مجاز |
| Governor | | Electronic | گاورنر |
| Oil Capacity | L | 16,40 | ظرفیت روغن |
| Coolant Capacity | L | 21,40 | ظرفیت خنک کننده |
| Intake Air Flow | m³ /min. | 10,70 | جریان هوای مصرفی |
| Exhaust Gas Flow | m³ /min. | 36,80 | جریان گاز خروجی از اگزوز |
| Exhaust Gas Temperature | ° C | 490,00 | دمای گاز خروجی از اگزوز |
| Start System | | 12 V d.c. | استارتر |

| Fuel Consumption | Load | %100 | %75 | %50 | مصرف سوخت |
|---|---|---|---|---|---|
| | L/h | 39,00 | 31,00 | 21,00 | |

## ALTERNATOR SPECIFICATIONS

| | | | |
|---|---|---|---|
| Make | | Stamford | تولید کننده |
| Model | | UCI274E | مدل |
| Frequency | Hz | 60 | فرکانس |
| Power | kw | 143,00 | توان |
| Design | | Brushless, 4 poles | طراحی |
| Cos Phi | | 0,80 | کسینوس فی |
| Phase | | 3 | فاز |
| Voltage | V | 480/277 | ولتاژ |
| Current | A | 496,20 | جریان |
| Insulation Class | | H | کلاس عایق بندی |
| Temperature | | H | دما |
| Stator | | 2 / 3 steps | استاتور |
| Rotor | | Single Bearing System, Flexible Disc | روتور |
| Excitation System | | Electronic ( AVR ) | سیستم تحریک |

## DIEMENSIONS AND WEIGHT

| Open Type | Dry Weight | Lenght | Width | Height | Tank Capacity |
|---|---|---|---|---|---|
| | kg. | mm. | mm. | mm. | L |
| AC 135-6 | | 2750,00 | 1300,00 | 1751,00 | 470,00 |
| Canopy | Dry Weight | Lenght | Width | Height | Tank Capacity |
| | kg. | mm. | mm. | mm. | L |
| MS 60 | 2240 | 3960 | 1356 | 2097 | 470 |

## P 602 - Control System


1 þMain status display.
2 þDisplay scroll button.
3 þPage(information) button.
4 þCommon alarm indicator.
5 þStatus LED's.
6 þOperation selecting buttons.

## Devices

þDSE, model 6020 Auto Mains Failure control module.
þBattery charger input 198-264 volt , output 27,6 V 5 A (24 V) or 13,8 Volt 5A (12V)
þEmergency stop push button and fuses for control circuits.

## Construction and Finish

þComponents installed in sheet steel enclosure. Phosphate chemical, pre-coating of steel provides corrosion resistant surface. Polyester composite powder topcoat forms high gloss and extremely durable finish. Lockable and hinged panel door provides easy access to components.

## Installation

þ Control panel is mounted on baseframe with steel stand. Located at the right side of the generator set (When you look at the Gen.Set. from Alternator)

## Generating Set Control Unit

þThe DSE 6020 is a standard control module for our generator sets up to 200kVA and ît has been designed to start and stop diesel and gas generator sets. The DSE 6020 module has been designed to monitor generator frequency, volt, current, engine oil pressure, coolant temperature running hours and battery volts. Module monitors the mains supply and switch over to the generator when the mains power fails. The DSE6020 also indicates operational status and fault conditions, Automatically shutting down the Gen. Set and giving true first up fault condition of Gen. Set failure.The LCD display indicates the fault.

Standard Specifications

þMicroprocessor controlled.
þLCD display makes information easy to read.
þ4-line, 64 x 132 pixel display.
þAutomatically transfers between mains (utilty) and generator power.
þManual programming on front panel.
þUser-friendly set-up and button layout.
þþRemote start.
þEvent logging (5)showing date and time.
þControls: Stop/Reset, Manual, Auto, Test, Start, buttons. An additional push button next to the LCD display is used to scroll through the modules' metering displays.

## Instruments

ENGINE
þEngine speed.
þOil pressure.
þCoolant temperature.
þRun time.
þBattery volts.
þConfigurable timing.
GENERATOR
þVoltage (L-L, L-N).
þCurrent (L1-L2-L3).
þFrequency.
MAINS
þVoltage (L-L, L-N).
þFrequency.
þMains ready.
þMains enabled.
þGen. Set ready.
þGen. Set enabled.

## Protection Circuits

WARNING
þCharge failure.
þBattery Low/High voltage.
þFail to stop.
þLow /High generator voltage.
þUnder/over generator frequency.
þOver /Under speed.
þLow oil pressure.
þHigh coolant temperature.
SHUT DOWNS
þFail to start.
þEmergency stop.
þLow oil pressure.
þHigh coolant temperature.
þOver /Under speed.
þUnder/over generator frequency.
þUnder/over generator voltage.
þOil pressure sensor open.
þCoolant temperature sensor open.
ELECTRICAL TRIP
þGenerator over current.

## Options

þFlexible sensor can be controlled with temperature, pressure, percentage (warning/shutdown/electrical trip)
þLocal setting parameters and monitoring from PC to control module with USB connection (max 6 mt).

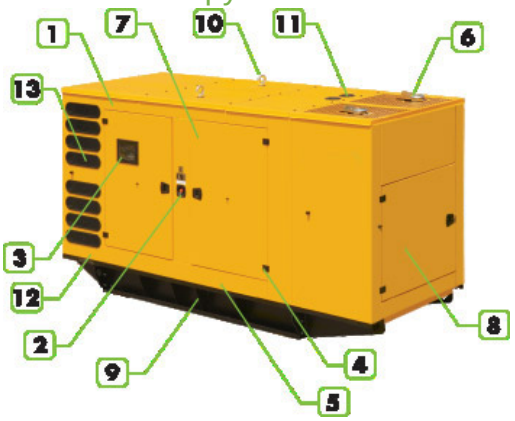
## Standards

þElecrical Safety / EMC compatibility BS EN 60950 Electrical business equipment.
þBS EN 61000-6-2 EMC immunity standard.
þBS EN 61000-6-4 EMC emission standard

## Static Battery Charger

þ Battery charger is manufactured with switching-mode and SMD technology and ët has high efficiency. Battery charger models' output V-I characteristic is very close to square and output is 5 amper, 13,8 V for 12 volt and 27,6 V for 24 V . Input 198 - 264 volt AC. Proline 2405 has fully output shot circuit protection and ët can be used as a current source. Proline 1205/2405 charger has high efficiency, long life, low failure rate, light weight and low heat radiated in accordance with linear alternatives. The charger is fitted with a protection diode across the output. Connect charge fail relay coil between positive output and CF output. They are equipped with RFI filter to reduce electrical noise radiated from the device. Galvanically isolated input and output typically 4kV for high reliability.

## MS 60 - Canopy




1. Steel structures.
2. Emergency stop push button.
3. Control panel is mounted on the baseframe . Located at the right side of the generator set.
4. Corrosion-resistant locks and hinges.
5. oil could be drained via valve and a hose
6. Exhaust system in the canopy.
7. special large access doors for easy maintanance
8. in front and back side special large access doors for easy maintanance
9. Base frame -fuel tank.
10. Lifting points similar to ISO container , located on each top corner of the canopy.
11. the cap on the canopy provides easy accsess to radiator cap.
12. sound proofing materials
13. Plastic air intake pockets.

## Introduction

Sound-attenuated and weather protective enclosures for generating sets from Abyaran, meet event the sound requirements and provide optimum protection from inclement weather and development by our specialist acoustic engineers. Our modular designed sound insulated canopies provide ease of access for servicing and general maintenance and interchangeable components permitting on-site repair. Enclosures are designed to optimize genset cooling performance, providing you with confidence that genset ratings and ambient capability.

## Standard Specifications

Compact footprint, low profile design.
Enclosure, generator set, exhaust system and fuel tank are pre-ssembled, pre-integrated and shipped as one package
Body made from steel components treated with polyester powder coating
Fire retardant foam insulation
Easy access to all service points
Exhaust system inside canopy
Large doors on each side
Control panel viewing window in a lockable access door
Emergency stop push button mounted on enclosure exterior
Cooling fan and battery charging alternator fully guarded
Fuel fill and battery can only be reached via lockable access doors.
Lifting points on the top of canopy and base frame
Customer options available to meet your applications needs.
Abyaran makes its generating sets' noise level tests in accordance with directive 2000/14/EC validation of the noise level test has been aproved by the notified body Szutest

| | | |
|---|---|---|
| Width | mm. | 1356 |
| Lenght | mm. | 3960 |
| Height | mm. | 2097 |
| Fuel Tank Capacity | L | 470 |